FACT SHEET

THROUGHPUT RATE OF TVET COLLEGE STUDENTS (NATIONAL CERTIFICATE VOCATIONAL)

For the period 2016 to 2018

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higher education
& training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

Khuluvhe, M. and Mathibe, R., (2021) *Throughout Rate of TVET College Students: National Certificate Vocational*, The Department of Higher Education and Training, Pretoria.

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1.   BACKGROUND

The National Certificate (Vocational) (NC(V)) qualification was introduced by the then Department of Education at public Technical and Vocational Education and Training (TVET) colleges in 2007 in an effort to respond to the priority skills demands of the South African economy. The NC(V) continues to be offered by TVET Colleges, however, a number of stakeholders have expressed concern about the inordinate amount of time that students spend at TVET Colleges to complete the full NC(V) qualification.

To date, there has been little reliable information about throughput rates of TVET College students enrolled in NC(V) programmes owing to the unavailability of unit level student enrolment data. Since 2016, however, the Department of Higher Education and Training (DHET) began collecting unit level enrolment data from TVET colleges. The availability of such data has now made it possible to calculate the throughput rates of NC(V) students with better reliability and confidence.

Information about throughput rates is crucial to understanding, among others, the level of efficiency of an education system. Throughput rates provide insights into how quickly or slowly students move through the system. The slower the movement of students from enrolment to completion, the greater the cost to the system. Moreover, the slow movement of students through the system (which is caused largely through high levels of repetition) creates a bottleneck in the system, resulting in constraints to the admission of the number of new entrants to TVET colleges. As the number of students repeating courses overlap with new student enrolments, entry into required courses become harder for all to access. Bottlenecks can cause both the student and the institution to incur increased educational costs, waste time, and delay completion. Low throughput rates impede student progress, impact negatively on teaching and learning, increase costs, and impacts negatively on the ability of institutions to facilitate student success. Delays in the completion of qualifications entail a waste of resources both at individual as well as at collective levels. They also deprive the economy of adequate numbers of new graduates. The National Development Plan[1]recognises that throughput rate is "a critical indicator of performance" of the TVET College system, and sets an ambitious target thereof.

2.   PURPOSE

The purpose of this Fact Sheet is to provide information and insights into the extent and nature of the throughput rate of TVET college students enrolled in NC(V) programmes. Such insight can be drawn upon to inform interventions to address relevant challenges and to improve accountability in the system.

3.   DEFINITION OF THROUGHPUT RATE

Throughput rate is defined as the rate at which a cohort successfully completes a qualification within the stipulated timeframe for that qualification (DHET (2021), Dictionary of Terms and Concepts for Post-School Education and Training). For the purposes of this Fact Sheet, the throughput rate is defined as the number of students enrolled for NCV Level 2 in 2016, expressed as a percentage of the number of students who completed NCV Level 4 within expected time frames (in 2018). For this fact sheet, this will include all students who enrolled in 2016 for NCV Level 2, and who completed NCV Level 4 in 2018.

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[1] NPC (2011) *National Development Plan: Vision for 2030*. National Planning Commission

4. METHODOLOGY USED TO CALCULATE THROUGHPUT RATE

The throughput rate is calculated by dividing the total number of students who completed NC(V) Level 4 in year 3 (2018), by the total number of students who enrolled for NC(V) Level 2 in year 1 (2016) [2], multiplied by 100. This calculation is based on a comparison of the same cohort of students who enrolled in year 1 and who completed in year 3. TVETMIS dataset was merged with the National Examinations Database in order to determine the throughput rate.

5. LIMITATIONS

- The analysis provided in this Fact Sheet excludes foreign national students since there is no common identifier between the two sources of data (namely, TVETMIS and the DHET examination database) used to estimate throughput rates. TVETMIS uses a passport number for foreign national students while the examination database uses an examination number to identify foreign students. The exclusion of foreign students could either overestimate or underestimate the overall throughput rate. This limitation is not expected to be significant since only 403 number of foreign national students enrolled in NCV programmes in 2016, out of a total number of 89 174 students enrolled in NCV programmes in 2016.
- Exam-only students who completed NCV Level 4 in year 3 were excluded from the analysis because they do not receive any teaching and learning from colleges but only write an examination.
- Owing to unit level record data not being available for 2015, all students enrolled for NCV Level 2 in 2016 are included in the calculation for the throughput rate. This means that the calculation of the throughput rate includes those students who may have repeated all or some subjects in 2016. Students who enrolled for all or only a few subjects in 2016 (since they could have been repeating these subjects in 2016), have a higher probability of completion in 2018. This will result in the throughput rate being higher than it would have been if only new entrant in 2016 enrolment data was used.

6. SUMMARY OF FINDINGS

- In the 2016 academic year, 88 771 students enrolled for the NC(V) Level 2 programme. In 2018, only 8 135 students of this cohort completed the NCV Level 4. Therefore, 9.2% of all students enrolled in the NC(V) 2 programme in 2016 completed this qualification within the expected time frame. The overall throughput rate of the 2016 NCV Level 2 student cohort was therefore 9.2%. (Table 1)
- The NC(V) Level 2 throughput rate for females was 4.6 percentage points higher than that for males and 1.8 percentage points higher than the overall throughput rate of 9.2%. (Table 2)
- The highest throughput rate was in the Transport and Logistics programme, which was 7.2 percentage points higher than the overall throughput rate. The second highest throughput of students was in the Education and Development programme, which was 6.5 percentage points higher than the overall throughput rate. (Table 3)
- The lowest throughput rate for the 2016 NC(V) Level 2 cohort was in the Drawing Office Practice programme, which was 5.5 percentage points lower than the overall throughput rate, followed by the Information Technology and Computer Studies Programme at 4.8%. (Table 3)

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[2] Due to the unavailability of 2015 unit level data, all students enrolled in 2016 were assumed to be new entrants in year 1.

- TVET colleges with the highest throughput rate for the 2016 NCV Level 2 cohort were Gert Sibande TVET College (20.7 %), Letaba TVET College (17.7 %), Umfolozi TVET College (15.8%) and Waterberg TVET College (15.2%). (Table 4)
- TVET colleges with the lowest throughput rate for the 2016 NC(V) Level 2 cohort were Central Johannesburg TVET College (1.5%), Flavius TVET College (3.7%) and Western TVET College (3.9%). (Table 4)
- The provinces with the highest throughput rate and higher than the overall throughput rate of 9.2% was Mpumalanga (13.9%), Western Cape (10.9%), Limpopo (10.1%) and Eastern Cape (9.3%) (Table 5)
- The provinces with the lowest throughput rate and lower than the overall throughput rate of 9.2% was Northern Cape (5.8%), North West (6.1%), Free State (7.6%) and Gauteng (8.5%). (Table 5)
- It is evident that there are major differences in the throughput rate of students enrolled in the NC(V) Level 2 programme in 2016 across gender, programme and college categories. However, there are no significant variations in the throughput rate across provinces.

7.   TABLES

Table 1: Overall Throughput rate of NCV Level 2 students: 2016 to 2018

Number of students enrolled for NCV Level 2 in 2016)	Number of students who completed NCV Level 4 in 2018	Throughput rate (%)
88 771	8 135	9.2

Sources: TVETMIS 2016 and National Examinations Database, November 2018

Table 2: Throughput rate by gender: 2016 to 2018

Gender	Number enrolled (NCV 2,2016)	Number completed NCV Level 4 in 2018	Throughput rate (%)
Male	35 046	2 226	6.4
Female	53 725	5 909	11.0
Overall	**88 771**	**8 135**	**9.2**

Sources: TVETMIS 2016 and National Examinations Database, November 2018

Table 3: Throughput rate by programme: 2016 to 2018

Programme	Number enrolled (NCV 2,2016)	Number completed (NCV4, 2018)	Throughput rate (%)
Civil Engineering and Building Construction	6 388	422	6.6
Drawing Office Practice	136	5	3.7
Education and Development	1 908	299	15.7
Electrical Infrastructure and Construction	11 456	593	5.2
Engineering and Related Design	11 268	745	6.6
Finance, Economics and Accounting	5 445	419	7.7
Hospitality	5 473	509	9.3
Information Technology and Computer Science	5 080	242	4.8
Management	4 165	380	9.1
Marketing	4 263	286	6.7
Mechatronics	525	56	10.7
Office Administration	16 851	2 368	14.1
Primary Agriculture	2 765	279	10.1
Primary Health	2 507	272	10.8
Process Instrumentation	0	0	0.0
Process Plant Operations	321	35	10.9
Safety in Society	2 935	361	12.3
Tourism	5 588	586	10.5
Transport and Logistics	1 697	278	16.4
Total	**88 771**	**8 135**	**9.2**

Sources: TVETMIS 2016 and National Examinations Database, November 2018

Table 4: Throughput rate by College: 2016 to 2018

College name	Number enrolled (NCV 2,2016)	Number completed (NCV4, 2018)	Throughput rate %
1. Boland TVET College	1 007	134	13.3
2. Buffalo City TVET College	1 795	182	10.1
3. Capricorn TVET College	4 068	448	11.0
4. Central Johannesburg TVET College	1 387	21	1.5
5. Coastal TVET College	3 272	289	8.8
6. College of Cape Town for TVET	1 858	172	9.3
7. Eastcape Midlands TVET College	1 982	249	12.6
8. Ehlanzeni TVET College	2 486	141	5.7
9. Ekurhuleni East TVET College	2 737	173	6.3
10. Ekurhuleni West TVET College	3 852	569	14.8
11. Elangeni TVET College - Central	3 000	144	4.8
12. Esayidi TVET College	1 953	188	9.6
13. False Bay TVET College	1 044	86	8.2
14. Flavius Mareka TVET College	512	19	3.7
15. Gert Sibande TVET College	2 836	586	20.7
16. Goldfields TVET College	706	49	6.9
17. Ikhala TVET College	1 245	127	10.2
18. Ingwe TVET College	1 791	140	7.8
19. King Hintsa TVET College	882	97	11.0
20. King Sabata Dalindyebo TVET College	2 062	141	6.8
21. Lephalale TVET College	739	30	4.1
22. Letaba TVET College	1 019	180	17.7
23. Lovedale TVET College	883	92	10.4
24. Majuba TVET College	3 328	234	7.0
25. Maluti TVET College	1 972	193	9.8
26. Mnambithi TVET College	1 284	55	4.3
27. Mopani South East TVET College	1 963	259	13.2
28. Motheo TVET College	905	50	5.5
29. Mthashana TVET College	813	77	9.5
30. Nkangala TVET College	1 781	259	14.5
31. Northern Cape Rural TVET College	721	33	4.6
32. Northern Cape Urban TVET College	752	52	6.9
33. Northlink TVET College	1 335	196	14.7
34. Orbit TVET College	1 942	130	6.7
35. Port Elizabeth TVET College	1 941	139	7.2
36. Sedibeng TVET College	1 353	196	14.5
37. Sekhukhune TVET College	1 147	86	7.5
38. South Cape TVET College	1 035	125	12.1
39. South West Gauteng TVET College	5 232	406	7.8
40. Taletso TVET College	1 407	78	5.5
41. Thekwini TVET College	1 239	90	7.3
42. Tshwane North TVET College	2 020	124	6.1
43. Tshwane South TVET College	1 286	66	5.1
44. Umfolozi TVET College	1 658	262	15.8
45. Umgungundlovu TVET College	1 454	86	5.9
46. Vhembe TVET College	3 851	203	5.3
47. Vuselela TVET College	1 276	72	5.6
48. Waterberg TVET College Campus	1 581	240	15.2
49. West Coast TVET College	1 507	133	8.8
50. Western TVET College	872	34	3.9
Total	**88 771**	**8 135**	**9.2**

Sources: TVETMIS 2016 and National Examinations Database, November 2018

Table 5: Throughput rate by province: 2016 to 2018

College name	Number enrolled (NCV 2,2016)	Number progressed (NCV4, 2018)	Throughput rate %
Eastern Cape	12 581	1 167	9.3
Free State	4 095	311	7.6
Gauteng	18 739	1 589	8.5
KwaZulu-Natal	18 001	1 425	7.9
Limpopo	14 368	1 446	10.1
Mpumalanga	7 103	986	13.9
North West	4 625	280	6.1
Northern Cape	1 473	85	5.8
Western Cape	7 786	846	10.9
Total	**88 771**	**8 135**	**9.2**

Sources: TVETMIS 2016 and National Examinations Database, November 2018

8.   Conclusion

This report indicates that only 9.2% of students who enrolled for the NCV (2) in 2016, completed the qualification within the 3-year expected time frame. This figure is a far cry from the target of 75% set by the National Development Plan (NDP)[3] for 2030. The performance and expenditure review of TVET Colleges undertaken by National Treasury in 2015[4] also draws attention to the inefficiencies caused by low throughput rates. It concludes that low throughput rates often result in smaller class sizes at later levels of the NC(V) programmes. This increases the costs per student, as generally the same amount of lecturing time is required even when classes become very small. Given the low throughput rates, the costs per NCV graduate are therefore exceedingly large in many colleges. It is assumed that the low throughput rates is the result of a combination of repetition and dropout. This phenomenon needs to be interrogated further so that appropriation solutions could be found to this very disturbing problem. The research study on dropout in TVET Colleges being undertaken as part of the TVET College Research Programme will help to provide better insights into the reasons behind such low throughput rates.

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[3] NPC (2011) *National Development Plan: Vision for 2030*. National Planning Commission
[4] DNA Economics (2015) *Performance and Expenditure Review: TVET*. National Treasury